



## First Grade

# Fire and the Animals of the Forest



### INTRODUCTION:

Good morning/afternoon! My name is \_\_\_\_\_, and I work for the \_\_\_\_\_ National Forest. Today we are going to talk about animals in the forest and what happens to them when there is a fire. What animals have you seen in the forest?

### LESSON

First, though, I need to tell you a little bit about fire. Does anyone know how many seasons there are in a year? There are four – summer, fall, winter and spring. Summer is hot and dry, and that is when you get to go swimming, play in the sprinklers and be outside a lot. Fall usually has warm days and cool nights. The leaves turn colors on the aspens and oaks and then fall to the ground. Do any of you help clean up leaves in your yards at home? Winter is cold, and we could get snow. The nights are very cold, and there is usually ice on everything outside in the early morning. That is called frost. When spring comes, the days start getting longer and the trees start leafing out again and it is usually very windy. What season is it now?

Now I have something to tell you that is going to really surprise you. There is a fifth season! Well, sort of. There is a fifth season



*There are lots of animals in the Southwestern ponderosa pine forest. These animal species have evolved with fire and have their own techniques to escape during a fire.*

**Coyote pups**

Photo by Walter and Phyllis Crick



## FOREST SERVICE MESSAGES

- A-1:** Fire has a natural role in the ecosystem.
- A-4:** All components of the environment function as a dynamic, interdependent and interrelated system.
- A-5:** The study of the science of fire and its behavior is important.
- C-7:** The Forest Service manages for biodiversity, not single species.



## ACADEMIC STANDARDS



## Arizona Standards

### HEALTH

- 1CH-F5:** Describe how environmental health and personal health are related
- 2CH-F7:** Identify when and how to seek emergency medical assistance and shelter
- P0 1:** Demonstrate how to contact parents and/or emergency services in emergency situations
- P0 2:** Recall emergency numbers

### SOCIAL STUDIES

- 3SS-F2:** Identify natural and human characteristics of places and how people interact with and modify their environment, with emphasis on:
- P0 6:** the ways in which people have used and modified resources in the local region, including dam construction, building roads, building cities, and raising crops

### LANGUAGE ARTS

- 3LS-F1:** Use effective vocabulary and logical organization to relate or summarize ideas, events and other information
- 4VP-F4:** Interpret visual clues in cartoons, graphs, tables and charts that enhance the comprehension of text

### ART

- 1AT-F2:** Imagine and clearly describe (e.g., through variations of movement and gesture, vocal pitch, volume and tempo) characters, their relationships, what they want and why
- P0 1:** Describe the imagined characters and their wants and needs (motivation), and basic relationships with the other characters in the scene

If you are a fire fighter! Fire season comes in the early spring and summer when the weather starts getting hot and dry. Fire season can be good and bad. The good that comes from forest fires is that they clean up our forest floor just like you help clean up the floor at home. This also helps the plants, trees and animals by bringing back new growth and getting rid of the old pine needles and little trees that take the water and food away from the bigger trees. The animals have fresh food to eat when the new plants start to grow after a fire has gone through the forest. But, fires can be bad too. Can you think of some examples

of bad fires? One example is a fire that burns down someone's house. Some fires in the forest can also be bad. If there are too many trees in the forest, the fire can get hotter and hotter and burn faster

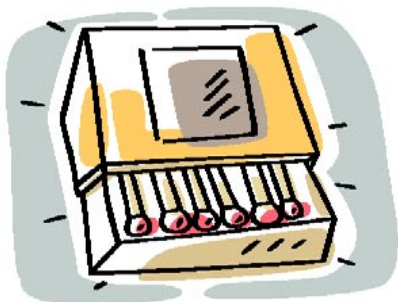
and faster. Think about it – doesn't a campfire get bigger if you add more wood to it? A forest fire is the same way; the more wood in the forest, the bigger a forest fire can get. When that happens, the fire can burn down everything – even the big, healthy trees that are usually able to survive a fire. As we continue today, I will explain more about fire and how it affects humans, animals, plants and trees.



*Mexican spotted owls*

Let's start by looking at the Fire Education Team Big Book! (There is a picture on one side with a description on the back that explains the picture. This should be presented in an interactive way with the kids using questions and answers.)

First, let's get to know the fire education team. (Go through names of the animals and show their pictures on page 1: Pat Pronghorn, Bert Bison, Karl Quail, Merrie Marmot, Bob Cat, Jack Rabbit, Ernie Eagle, Larry Lizard and Charlie Coyote.)



Now that we've met all the members of the fire education team, let's go on through the rest of the big book and find out what the animals want us to know about fire!

**P0 2:** Demonstrate the character motivations and relationships through dialogue and movement

**Possible links to: Science-social perspectives**

**1AT-F3:** As a character, play out her/his wants by interacting with others, maintaining concentration, and contributing to the action of classroom improvisations (e.g., scenes based on personal experience and heritage, imagination, literature and history)

**P0 1:** Develop small group improvisations based on characters' wants and needs

**P0 2:** Interact in role with other characters in the improvisation

**P0 3:** Use an imaginative range of movement and dialogue that is appropriate to the characters within the improvisation

**Possible links to: Language Arts – literature; Social Studies – history**

**3AT-F5:** Explain personal preferences for specific dramatizations

**P0 1:** Identify a character that one enjoyed and explain one's own reaction

## **SCIENCE**

**3SC-F3:** Describe and explain the interrelationship of populations, resources and environments

**P0 1:** Describe populations, resources and environments (e.g., habitat, ecosystem, food chain)

**P0 2:** Explain interactions and interdependence among specific populations, resources and environments

**4SC-F1:** Describe and explain cause-and-effect relationships in living systems

**P0 1:** Identify cause-and-effect relationships in living systems

**P0 2:** Explain cause-and-effect relationships in living systems

**4SC-F4:** Identify characteristics of plants and animals (including extinct organisms) that allow them to live in specific environments

**P0 1:** Identify adaptations of plants that allow them to live in specific environments

**P0 2:** Identify adaptations of animals that allow them to live in specific environments

**4SC-F7:** Explain the interaction of living and non-living components within ecosystems

**P0 1:** Identify living components within ecosystems

**P0 2:** Identify non-living components within ecosystems

**P0 3:** Describe the interaction among living and non-living components in an ecosystem

**6SC-F3:** Identify the seasons and their characteristics

**P0 1:** Identify the seasons

**6SC-F5:** Identify major features of natural processes and forces that shape the earth's surface, including

(Focus on the information under the heading “Fire Fact.” Also, touch on some of the fun facts about the animals.)

(Example – Page 2): Ernie Eagle says, “Don’t Play with Fire.” Fires can be dangerous and hard to control. Do you know how most fires across the country are started? Most damaging wildland fires are started by children or adults. Most of these people don’t mean to start the fires. They were accidents. Have you ever done anything on accident? That’s why when you are out in the woods, you have to be really careful with fire. If you have a campfire, you should make sure that a grown-up watches the fire at all times. You should also remember that running or playing near a campfire is unsafe. When it is time to put the campfire out, make sure that the grown-up never leaves the fire until it is out cold! Some other things you can do to help protect the forest are to never play with matches; never use firewood unless an adult is watching; and remind grown-ups to never throw their cigarettes on the ground. Now that we know more about how fire can be dangerous, Ernie Eagle wants us to know a little more about himself. Does anyone know why eagles are known all around the world? That’s right – the bald eagle is the national bird of the United States!



(Go through each page. Make it interactive. Ask questions. Call the animals by their names. Show props that are applicable to each page.)

Props and applicable pages:

- Piece of wood (Slope, Fuels and Weather)
- Dry grass (Slope, Fuels and Weather)  
Show the kids the piece of wood and the dry grass and ask them which one they think will burn faster. Which one will burn longer?
- Piece of ponderosa pine bark (By Adapting)  
Show the kids how thick the ponderosa pine bark is and explain that it helps protect the tree from fire.

weathering and volcanic activity

- PO 1:** Identify natural forces (e.g., water, ice, wind) that shape the earth’s surface
- PO 3:** Identify natural processes (e.g., earthquake, floods, volcanic eruptions) that rapidly shape the earth’s surface
- 6SC-F6:** Describe natural events and how humans are affected by them
- PO 1:** Identify natural events that affect humans
- PO 2:** Explain how natural events impact human life



## New Mexico Standards

### HEALTH EDUCATION

- Standard 1:** Students will comprehend concepts related to health promotion and disease prevention.
- 4.** Students will describe how physical, social, and emotional environments influence personal health.
- Standard 2:** Students will demonstrate the ability to access valid health information and health promoting products and services.
- 4.** Students will demonstrate the ability to locate school and community health helpers.

### SOCIAL STUDIES

#### Strand: Geography

- Content Standard II:** Students understand how physical, natural, and cultural processes influence where people live, the ways in which people live, and how societies interact with one another and their environments.
- K-4 Benchmark II-B:** Distinguish between natural and human characteristics of places and use this knowledge to define regions, their relationships with other regions, and patterns of change.

#### Grade 1 Performance Standards

1. Identify and classify characteristics of places as human or natural.

- K-4 Benchmark II-C:** Be familiar with aspects of human behavior and man-made and natural environments in order to recognize their impact on the past and present.

#### Grade 1 Performance Standards

1. Identify examples of and uses for natural resources in the community, state, and nation.
2. Describe the human characteristics of places such as housing types and professions.

- K-4 Benchmark II-F:** Describe how natural and man-made changes affect the meaning, use, distribution, and value of resources.

#### Grade 1 Performance Standards

1. Describe the role of resources in daily life.



## ACTIVITY

(Note: This activity was adapted from “Activity 6-7. Great Escape” from “FireWorks Curriculum: Featuring Ponderosa, Lodgepole, and Whitebark Pine Forests.”



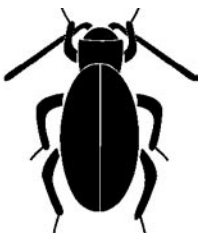
*Horned lizard*

[http://www.fs.fed.us/rm/pubs/rmrs\\_gtr65.pdf](http://www.fs.fed.us/rm/pubs/rmrs_gtr65.pdf))

Now that we’ve learned a little about fire, let’s play a game that will help us understand even better how fire affects the animals in the forest! We are going to play the Great Escape Game! This is how it works. Someone is going to pretend that they are a certain animal. They will have to act like the animal would act. Then, the person has to act out what the animal would do if there were a fire. Then, we all have to guess which animal we think that person is acting like. So, the animals we have to choose from are the Fire Education Team animals. I’ll put the names of all the animals up here on the board so that we can remember all nine of them. Now, I need nine volunteers. (Pick nine students. Take the students to the side. Pass out the Fire Education Team playing cards. Each student should receive one. The card that the student is holding is the one that they will act out.) Now, you have to really act like the animal would act! Then, I’ll ask you to show us – without using any words or sounds – what the animal would do if a fire started. Then, we’ll give the rest of the class a chance to guess! (Go through each of the nine volunteers and let the class figure out which animal is being acted out. After the class guesses the right animal, explain what that animal does when there is a fire. Information on this is available on the back of each animal card.)

## CLOSING

So, you see that there are lots of ways that animals in the forest have adapted to deal with fire. Fire is a normal occurrence in the forest. That’s why animals have developed ways to live through it. What should you do if there is a fire? Also, fires actually help a lot of the animals by providing food. For example, Merrie Marmot likes to eat the tender new plants that grow after a fire.



2. Describe ways that humans depend upon, adapt to, and affect the physical environment.

## LANGUAGE ARTS

### Strand: Reading and Listening for Comprehension

**Content Standard I:** Students will apply strategies and skills to comprehend information that is read, heard, and viewed.

**K-4 Benchmark I-A:** Listen to, read, react to, and retell information.

#### Grade 1 Performance Standards

1. Listen to and retell short stories.
6. Follow simple written and oral instructions.
7. Increase vocabulary through reading, listening, and interacting.

## ART

**Content Standard 1:** Learn and develop the essential skills and technical demands unique to dance, music, theatre/drama, and visual arts.

### Theatre

- A. Use body and voice to portray character that contributes to the action of a dramatization.
  1. Demonstrate the ability to concentrate and stay in character for the duration of short improvised dramatizations.
  2. Participate within the range of all students’ abilities.
- C. Select characters, environments, and situations for dramatizations.
  1. In small or large group discussions, describe in detail what they imagine characters in their dramatizations look like, how they behave, how they feel about other characters, and where they live.

**Content Standard 5:** Observe, discuss, analyze, and make critical judgments about artistic works.

### Theatre

- B. Explain how wants and needs of characters are different from their own.
  1. In class discussions or in writing, describe their emotional reactions to and personal preferences about a performance, relating their reactions to their sensory perceptions, personal experiences and knowledge of the subject or topic of the play.

## SCIENCE

### Strand II: Content of Science

**Standard II (Life Science):** Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.

## HANDOUT

A few sets of The Fire Education Team playing cards for the classroom. Smokey and Friends “What is a Forest” coloring sheets (one per student). One “Fire in Nature” poster for the classroom.

## SUPPLIES

- Fire Education Team Big Book (one)
  - Available through National Symbols Catalog
  - Eighteen large graphical descriptions of basic wildland fire principles. Great for group presentations! It expands on lessons of the “Good Fire/Bad Fire” Fire Activity Kit and introduces the
- Piece of wood
- Dry grass
- Piece of ponderosa pine bark
- Fire Education Team playing cards (5 sets)
  - Available through National Symbols Catalog
  - Sheets of 10 perforated cards of the animals in the Fire Education Team. Card backs describe each animal species and how they respond to wildland fire.
- Smokey and Friends “What is a Forest” coloring sheets (one per student)
  - Available from <http://www.smokeybear.com/resources.asp>
- “Fire in Nature” poster (one per classroom)
  - Available through National Symbols Catalog
  - An animated poster featuring the “Fire Education Team” and the wildland fire cycle in nature. An intro to the “Fire in Nature” poster series designed for a younger audience.



**K-4 Benchmark I:** Know that living things have diverse forms, structures, functions, and habitats.

### Grade 1 Performance Standards

1. Know that living organisms (e.g., plants, animals) have needs (e.g., water, air, food, sunlight).
2. Know that living organisms (e.g., plants, animals) inhabit various environments and have various external features to help them satisfy their needs (e.g., leaves, legs, claws).
3. Describe the differences and similarities among living organisms (e.g., plants, animals).
4. Observe that living organisms (e.g., plants, animals) have predictable but varied life cycles.

### Strand II: Content of Science

**Standard II (Life Science):** Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.

**K-4 Benchmark II:** Know that living things have similarities and differences and that living things change over time.

### Grade 1 Performance Standards

1. Identify differences between living and nonliving things.
2. Recognize the differences between mature and immature plants and animals (e.g., trees/seedlings, dogs/puppies, cats/kittens).

## **FOREST SERVICE CONSERVATION EDUCATION LEARNER GUIDELINES**

**Program title:** Fire and the Animals of the Forest

**Target audience:** First Grade

**Primary topic:** Animals' adaptations to fire in the forest.

**Length of program:** 45 minutes

**Setting:** indoors or outdoors

**Guidelines addressed are referenced here:**

<b>K-4</b>
<b>I. Questioning and Analysis Skills</b>
<b>A1</b>
<b>II. Knowledge of Environmental Processes and Systems</b>
<b>1. A3</b>
<b>2. C1, C2</b>
<b>3.</b>
<b>4.</b>
<b>III. Skills for Understanding and Addressing Environmental Issues</b>
<b>1.</b>
<b>2.</b>
<b>IV. Personal and Civic Responsibility</b>
<b>D2</b>

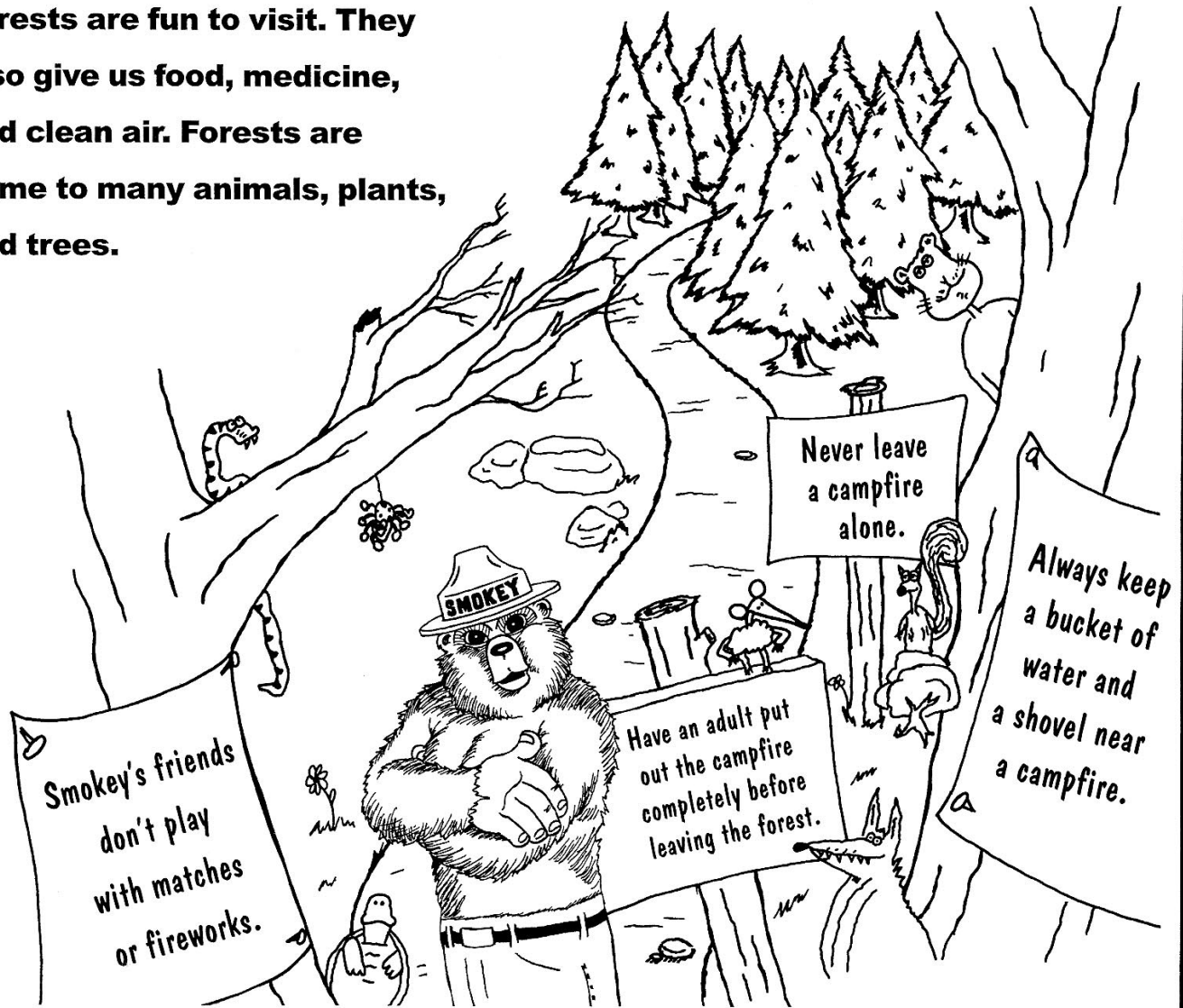




Grades K-2  
**Activity 1**

# What is a Forest?

**Forests are fun to visit. They also give us food, medicine, and clean air. Forests are home to many animals, plants, and trees.**



**What do you like best about forests?**

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